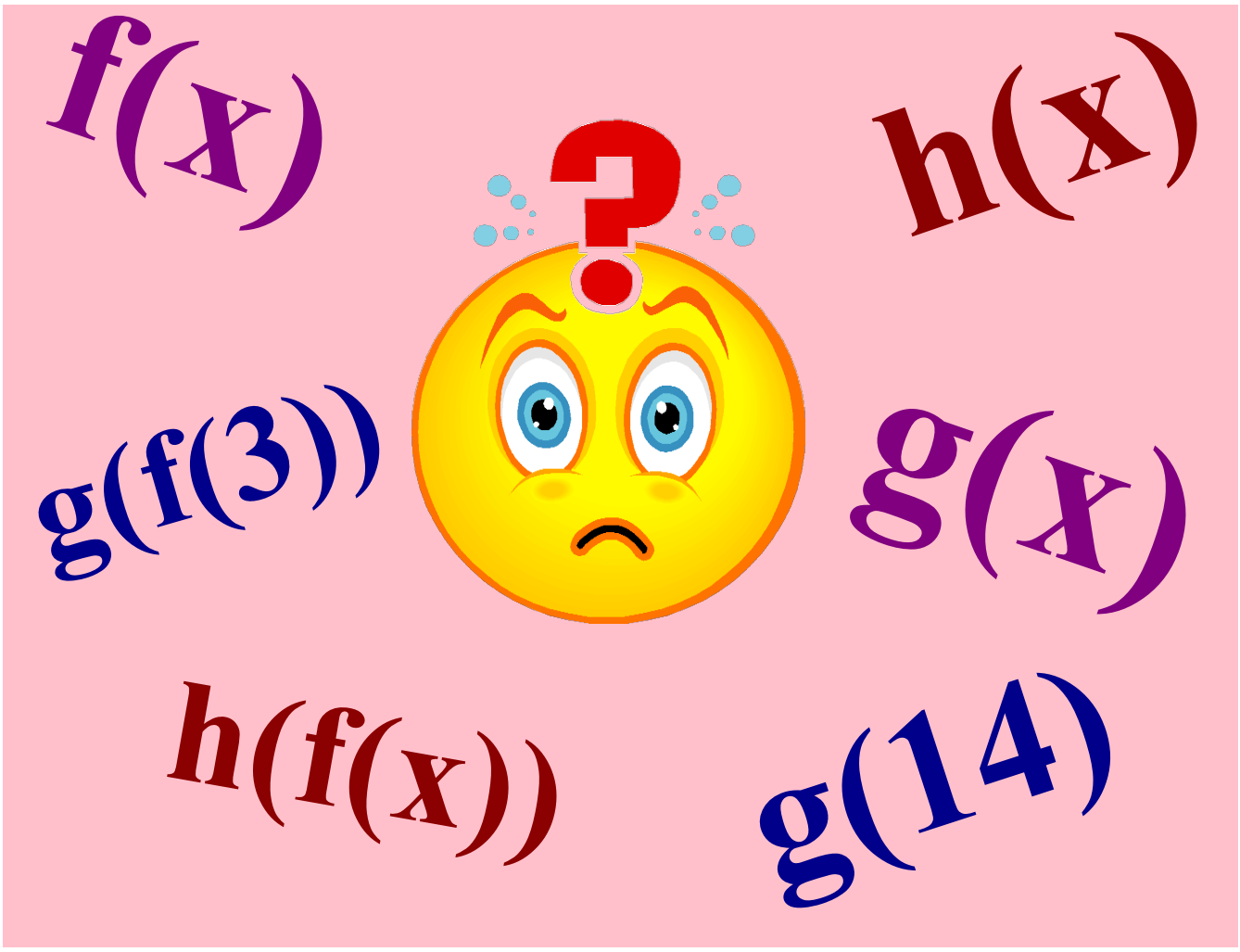

f(x)
h(x)
g(f(3))
g(x)
h(f(x))
g(14)

$y = 7x - 1$

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

all represent the functions height (y-value)

Function Notation:

$h(x) = 12$

$h(12)$

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

a) $f(20) = 7(20) - 1$

$f(20) = 140 - 1$

$f(20) = 139$ ← y

$(20, 139)$

x y

b) $f(x) = 20$ $y = 20$

$f(x) = 7x - 1$

$20 = 7x - 1$

$\frac{21}{7} = \frac{7x}{7}$

$3 = x$

$(3, 20)$

x y

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

do inside bracket first

c) $g(3)$

$g(3) = 3(3 - 1)$

$g(3) = 3(2)$

$\boxed{g(3) = 6}$

d) $h(f(1))$

① $f(1) = 7(1) - 1$

$f(1) = 7 - 1$

$f(1) = 6$

② $h(6) = 2(6)^2 - 1$

$h(6) = 2(36) - 1$

$h(6) = 72 - 1$

$\boxed{h(6) = 71}$

$f(x) = 7x - 1$

$g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

e) h(2) -f(3)

$h(2) = 2(2)^2 - 1$

$h(2) = 2(4) - 1$

$h(2) = 8 - 1$

$h(2) = 7$

$f(3) = 7(3) - 1$

$f(3) = 21 - 1$

$f(3) = 20$

$h(2) - f(3)$

$7 - 20$

-13

Try These !!

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

f) $g(-3) = -12$

g) $f(g(-2))$

$f(-9)$

-64

h) $h(-3) - f(2)$

i) $g(x) = 27$

$f(x) = 7x - 1$ $g(x) = 3(x - 1)$

$h(x) = 2x^2 - 1$

Try These !!

i) g(x) = 27

g(x)=3(x-1)
27=3(x-1)
27=3x-3
27+3=3x
30=3x
10=x

f) g(-3)

g(x)=3(x-1)
g(-3)=3(-3-1)
g(-3)=3(-4)
g(-3)=-12

g) f(g(-2))

g(x)=3(x-1)
g(-2)=3(-2-1)
g(-2)=3(-3)
g(-2)=-9

f(g(-2))

f(-9)

f(x)=7x-1
f(-9)=7(-9)-1
f(-9)=-63-1
f(-9)=-64

h) h(-3)-f(2)

h(x)=2x²-1
h(-3)=2(-3)²-1
h(-3)=2(9)-1
h(-3)=18-1
h(-3)=17

f(x)=7x-1
f(2)=7(2)-1
f(2)=14-1
f(2)=13

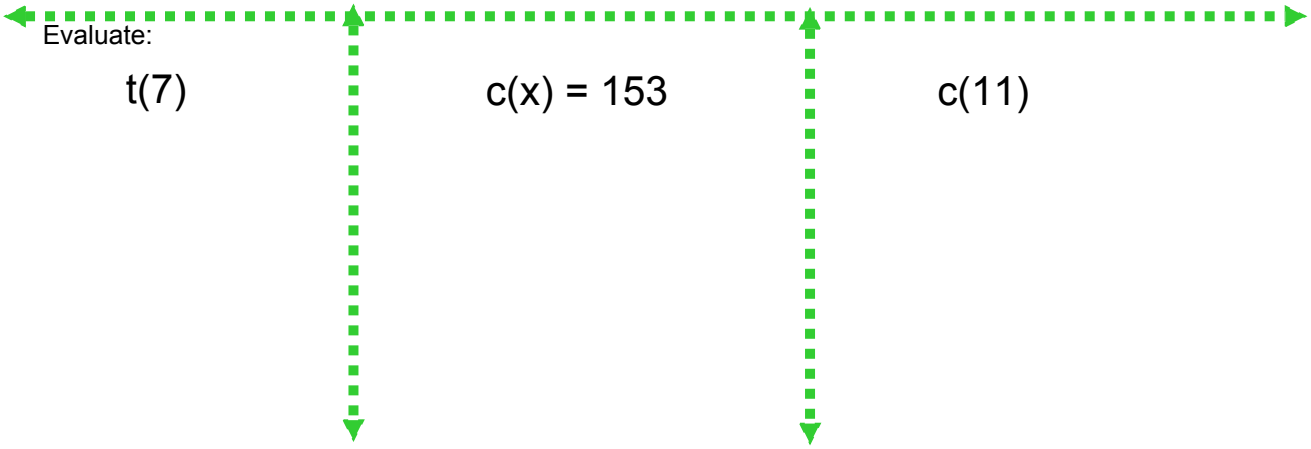
h(-3)-f(2)

17 - 13

4

Function Notation...

$c(x) = 5x - 2$ $a(x) = 20 - x$ $t(x) = 3x + x$



Evaluate:

$t(7)$ $c(x) = 153$ $c(11)$

a) $f(x) = 13$

$f(x) = \frac{1}{2}x + 3$

$13 = \frac{1}{2}x + 3$

$2 \cdot 10 = \frac{1x}{2} \cdot 2$

$20 = x$

b) $g(x) = 37$

$g(x) = 5(x-3) + 2$

$37 = 5(x-3) + 2$

$35 = 5(x-3)$

$35 = 5x - 15$

$\frac{50}{5} = \frac{5x}{5}$

$10 = x$

m) $i(g(3))$

① $g(3) = 5(3-3)+2$

$g(3) = 5(0)+2$

$g(3) = 0+2$

$g(3) = 2$

$i(2) = 7(2+5)-2$

$i(2) = 7(7)-2$

$i(2) = 49-2$

$i(2) = 47$